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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,531	01/07/2002	Robert Frigg	8932-591	4875

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PENNIE & EDMONDS LLP
1667 K STREET NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

COMSTOCK, DAVID C

ART UNIT	PAPER NUMBER
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3732

DATE MAILED: 07/30/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/036,531

Applicant(s)

FRIGG ET AL.

Examiner

David C. Comstock

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-52 and 55-61 is/are rejected.
- 7) ☒ Claim(s) 53 and 54 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-52 and 55-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byrd, III et al. (5,466,237; cited by applicant) in view of Wisnewski et al. (5,562,663).

Byrd, III et al. disclose a bone fixation device 10 comprising a bone fastener 15, a receiving member 14, a longitudinal support member 20 passing through a transverse channel 17 in the receiving member, and a threaded clamping member 25, which positively locks the fastener in a selectable angular position relative to the receiving member. The fastener includes a semi-spherical head 48 and an integral shank 15 and collar 40. The head includes a knurled surface 43 to increase friction and create a positive lock between the head and the receiving member. Byrd, III et al. do not disclose the concentric edges about the spherical head. Wisnewski et al. teach, in a similar device, that sharp ridges, knurled surfaces, and diamond embossed surfaces are functionally equivalent means of increasing interface friction, known in the art at the time of the invention (see Figs 2, 18, and 19, col. 3, lines 32-34, col. 5, lines 13-18, and col. 6, lines 37-44, 64, and 65). Therefore, it would have been obvious to a person of ordinary skill to substitute a series of ridges or a diamond embossed surface for a

knurled surface, this being merely the substitution of functionally equivalent means of increasing interface friction, known in the art. The series of ridges necessarily have different diameters along the different locations on the semi-spherical head. With regard to claims 9 and 10, it also would have been obvious to form the radius ratio to have any of numerous values since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Likewise, with regard to claims 13, 14, 32, 33, and 56-59, it would have been obvious to form the collar diameter within the range of 4mm - 10mm, the collar thickness within the range of 0.5mm - 2.0mm, and the shank diameter within the range of 3mm - 6mm since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. With regard to claims 18, 37, and 50-52, removable heads and integral heads are functionally equivalent types of fastener heads known in the art (see e.g. Jacob et al. [5,084,048], Fig. 1 and col. 3, lines 51-53). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a removable, separately formed head for an integral head since this is merely the substitution of functionally equivalent types of fasteners known in the art. Furthermore, a person of ordinary skill in the art would readily use a threaded interface to form such a removable head and/or shoulder, since threads are an old and ubiquitous means of connection known in the art. With regard to claim 20, it also would have been obvious to substitute a grub screw for a nut type clamping member 25 since

these are functionally equivalent means of retaining bone fixation devices to bone screws, well-known in the art at the time of the invention. With regard to claim 23, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the inner surface of a deformable material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

Claims 53 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

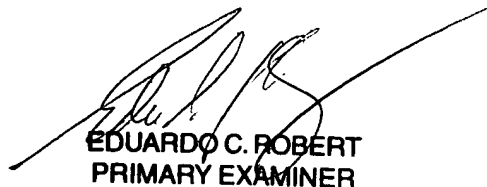
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Comstock whose telephone number is (703) 308-8514.



D.C. Comstock
25 July 2003



EDUARDO C. ROBERT
PRIMARY EXAMINER